

REMARKS

This Response is submitted in reply to the non-final Office Action mailed on July 27, 2006. A petition for a one month extension of time is submitted herewith. The Director is authorized to charge \$120.00 for the petition for extension of time or any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112843-25 on the account statement.

Claims 1-2, 7-8 and 14-20 are pending in this application. Claims 3-6 and 9-13 were previously cancelled. In the Office Action, Claims 1-2, 7-8 and 14-20 are rejected under 35 U.S.C. §103. For at least the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claims 1-2, 7 and 19-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,845,487 to Franz ("*Franz*") in view of U.S. Patent No. 5,738,662 to Shannon et al. ("*Shannon*"). Applicants believe this rejection is improper and respectfully traverse it for at least the reasons set forth below.

Independent Claims 1, 7 and 19 are directed, in part, to valve arrangement that includes a valve and a piston member. For example, the piston member includes a single stem and a mushroom shaped head having an apex. The apex engages a stopper adapted to resist a movement of the piston member and the mushroom shaped head is deformable under pressure in a desired flow direction. In contrast, Applicants respectfully submit that there is no suggestion or motivation to combine *Franz* and *Shannon* to obtain the present claims, and even if combinable, all of the claimed elements are not taught or suggested by *Franz* and *Shannon*.

Applicants respectfully submit that there is no suggestion or motivation to combine *Franz* and *Shannon* to obtain the present claims because the mode operation of the device in each reference is completely different. For example, *Franz* is directed to a medical pumping system having a disposable cassette. The cassette includes a duck-bill check valve 42 and an umbrella valve 44. See, *Franz*, column 6, lines 35-65 and Figure 4. During the fluid control operation, fluid flows from the supply tube 2 through the flexing umbrella valve 44 (via passage 39) into the cavity 31 and bellows 34. The bellows 34 expands to accept fluid and subsequently contracts to expel the fluid out through central axial aperture 46, duck-bill valve 42 and passage 37 into

tube 6. The duck-bill check valve 42 prevents backflow of solution away from the patient toward the pump by closing under back-pressure from output tube 6.

In contrast to *Franz*, *Shannon* is directed to a fluid manifold 10 for allowing fluids from certain retrograde-flow-checked inlets 24a, 24b, and 24c to flow through at a certain pressure using an elongated membrane 20. See, *Shannon*, column 7, lines 12-67 and Figure 2. The fluid flows through the inlet connector 13 of upstream housing member 11 through to the outlet connector 15 of downstream housing member 12. A series of retrograde flow controlled inlet connectors (14a-14c) can be used to provide medicaments to the fluid. The fluid flow is controlled by using a resilient backcheck member 20, which is a membrane, flat in its relaxed state. The resilient backcheck member 20 prevents fluid from the chamber 22 from entering the retrograde-flow-checked inlets 24a, 24b, and 24c. Fluids can only enter the chamber from any of the retrograde-flow-checked inlets when the fluid pressure in a particular individual inlet exceeds the fluid pressure in the chamber by an amount sufficient to overcome the biasing force urging the resilient backcheck member 20 against the particular valve seat 25a, 25b or 25c. Thus, the resilient backcheck member 20 is only displaced from the individual valve seats to allow flow through the respective inlet openings when the pressure differential is greater than the cracking pressure associated with the resilient backcheck member 20.

As discussed above, *Franz* uses a combination duck-bill check valve 42 and an umbrella valve 44 to control fluid flow from a single inlet whereas *Shannon* uses a resilient backcheck membrane member 20 to control fluid flow from a plurality of inlets. The devices in *Franz* and *Shannon* each have a different mode of operation and function in an entirely different manner, which teaches away from the combination. Consequently, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

What the Patent Office has done is to rely on hindsight reconstruction of the claimed invention. Applicants respectfully submit that it is only with a hindsight reconstruction of Applicants' claimed invention that the Patent Office is able to even attempt to piece together the teachings of the prior art so that the claimed invention is allegedly rendered obvious. Instead, the claims must be viewed as a whole as defined by the claimed invention and not dissected into

discrete elements to be analyzed in isolation. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995). One should not use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d at 1075. (Fed. Cir. 1988).

Applicants also respectfully submit that even if combinable all of the claimed elements are not taught or suggested by the cited references. For example, *Franz* to disclose or suggest a stopper as required, in part, by Claims 1, 7 and 19. *Franz* also fails to disclose or suggest that an apex of a piston member engages a stopper adapted to resist a movement of the piston member as required, in part, by Claims 1, 7 and 19. Instead, *Franz* is directed to a two way valve that is a combination valve (see *Franz*, Figure 4 (40)) having a duck-bill check valve 42 extending into a central axial passage 37 and another valve 44 that extends into a bowl shaped recess 31. *Franz* fails to disclose or suggest any type of stopper that engages an apex of either valves 42 or 44, and the Patent Office has provided no evidence regarding same. In fact, as taught by *Franz*, the ends of the duck-bill check valve 42 and umbrella valve 44 are positioned in an axial passage 37 and cavity 31, respectively, and do not engage any stopper. See *Franz*, Figure 4. Moreover, *Franz* fails to explicitly indicate any type of valve having a cracking pressure of 0.10 to 0.20 bar as a threshold pressure at which flow through the valve is allowed to occur.

Similarly, *Shannon* fails to disclose or suggest a stopper as required, in part, by Claims 1, 7 and 19. *Shannon* also fails to disclose or suggest that an apex of a piston member engages a stopper adapted to resist a movement of the piston member as required, in part, by Claims 1, 7 and 19. Instead, *Shannon* is directed to a fluid manifold 10 for allowing fluid to flow through from a plurality of inlets at a certain pressure whereby the fluid flow is controlled by using a resilient and elongated membrane member 20.

For at least the reasons discussed above, the combination of *Franz* and *Shannon* is improper. Moreover, even if combinable, *Franz* and *Shannon* do not teach, suggest, or even disclose all of the elements of Claims 1, 7 and 19 and Claims 2 and 20 that depend from Claims 1, 7 and 19, and thus, fail to render the claimed subject matter obvious.

In the Office Action, Claims 1-2, 7-8 and 14-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Franz* and *Shannon* in view of U.S. Patent No. 5,244,463 to Cordner et

al. ("*Cordner*") and U.S. Patent No. 5,009,654 to Minshall et al. ("*Minshall*"). Applicants believe this rejection is improper and respectfully traverse it for at least the reasons set forth below.

Independent Claims 1, 7, 14, 17 and 19 are directed, in part, to valve arrangement that includes a valve and a piston member. The piston member includes a single stem and a mushroom shaped head having an apex. The apex engages a stopper adapted to resist a movement of the piston member and the mushroom shaped head is deformable under pressure in a desired flow direction. In contrast, Applicants respectfully submit, even if combinable, all of the claimed elements are not taught or suggested by the cited references.

As discussed previously, *Franz* and *Shannon* fail to disclose or suggest a stopper or that an apex of a piston member engages the stopper adapted to resist a movement of the piston member as required, in part, by the present claims. Similarly, *Minshall* fails to disclose or suggest a stopper or that an apex of a piston member engages the stopper adapted to resist a movement of the piston member as required, in part, by the present claims. In fact, *Minshall* fails to even disclose a valve arrangement having any type of piston member and stopper. Finally, *Cordner* fails to disclose or suggest a stopper or that an apex of a piston member engages the stopper adapted to resist a movement of the piston member as required, in part, by the present claims. *Cordner* also fails to even disclose any type of valve arrangement having a piston member and stopper.

For at least the reasons discussed above, even if combinable, *Franz*, *Shannon*, *Minshall* and *Cordner* do not teach, suggest, or even disclose all of the elements of Claims 1, 7, 14, 17 and 19 and Claims 2, 8, 15-16, 18 and 20 that depend from Claims 1, 7, 14, 17 and 19, and thus, fail to render the claimed subject matter obvious.

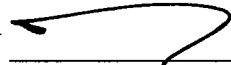
Accordingly, Applicants respectfully request that the obviousness rejections with respect to Claims 1-2, 7-8 and 14-20 be reconsidered and the rejections be withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY



Robert M. Barrett
Reg. No. 30,142
Customer No. 24573

Dated: November 27, 2006